ASOS MODIFICATION NOTE 12 (for Electronics Technicians)
Engineering Division
W/OSO321:BGM

SUBJECT : Installation of 9600-baud modem(s) Model V.3225

PURPOSE : Increase transfer rate between OIDs and the ACU from 2400 to 9600 baud.

EQUIPMENT AFFECTED : Automated Surface Observing System (ASOS)

PARTS REQUIRED : Reference parts listed in the attached Field Modification Kit (FMK) #048

MOD PROCUREMENT : The above parts will be provided by the NLSC as ASOS S100-FMK048. No action is required by the station.

SPECIAL TOOLS REQUIRED : None

TIME REQUIRED : 1 hour

EFFECT ON OTHER INSTRUCTIONS : None

CERTIFICATION STATEMENT : This modification is authorized by Engineering Change Proposal E92SM05F038. It was tested by the Engineering Division at Silver Spring, MD.

GENERAL

This modification note provides instructions for replacing the model 2440 modems in the ACU with a model V.3225, 9600-baud modem. Refer to the ASOS Site Technical Manual, Chapter IV (Theory), pages 2-70 through 2-76. The pages are part of change 1 for the ASOS Site Technical Manual.

A separate modification kit is required for each 2400-baud secondary OID. Secondary OID-3 references are shown in parentheses. The installation for a system with two secondary OIDs can be accomplished in parallel or in series.

PROCEDURE

Instructions are provided in FMK #048 for installation of the model V.3225 9600-baud modem. Notify the AOMC before starting the modification.

REPORTING MODIFICATION

Target date for completing this modification is 45 days after receipt of FMK. Report completed modification on WS Form H-28, Engineering Progress Report, per instructions in EHB-4, part 2, using reporting code ASOS.

Make appropriate entries in the SYSLOG using the Maintenance Action keys, Field Modification keys, and comment fields. Follow these steps:

1. Log On as TECH.
2. Key the MAINT screen.
3. Key the ACTION page.
4. Key START - Stop here and perform the modification.
   After FMK-048 is complete, log on system.
5. Key the MAINT screen.
6. Key the ACTION page.
7. Key FMK - Enter the FMK number as follows: **FMK048**
   On the second line of the screen verify that only FMK048 is displayed. Complete by entering **Y** in the Y/N if only FMK048 is displayed.
8. Check the SYSLOG and verify the FMK message. Notify the AOMC via telephone that FMK 048 is complete.

Return all replaced parts as S100-FMK048OLD. This should include the 2400 Baud stand-alone and rack mount modems, S100-10-1 and S100-1A3A1. NRC will test, verify, and restock each item returned.

J. Michael St. Clair
Chief, Engineering Division

Attachment

W/OSO321:BGMcCormick:rhz:2/15/94:disk HB-11-a "asomod12.h11"   Spellchecked rhz: redone 2/16/94:redone 3/1/94

ASOS FIELD MOD KIT (FMK)

CONTRACT 50-SANW-1-00050

AAI SYSTEMS MANAGEMENT INC.
11101 GILROY ROAD
HUNT VALLEY, MD 21030-1108

Date Prepared: 12/07/93 Task Order/ECP: E92SM05F038

Part Numbers Affected: 62828-40044 ACU CABINET
                62828-40000 ASOS Top Level

Documentation Included: 9600-BAUD MODEM INSTALLATION INSTRUCTIONS

Description of Change: The FMK replaces the 2400-baud modems in the ACU with a model V.3225 9600-baud modem.

Parts Included: SEE ATTACHED PARTS LIST

QA Concurrence With FMK:_____

9600-BAUD MODEM FIELD MOD. KIT

PARTS REQUIRED:

PART NUMBER	QTY.	NOMENCLATURE
1. 62828-42043-10	2 ea.	Cable & Adapter, 9600 baud
2. 62828-90044-2	1 ea.	Adapter, Modem
3. 62838-90048-1	1 ea.	Modem, Model V.3225 Rack
4. 62828-90050-1	1 ea.	Modem, Model V.3225 Standalone

PROCEDURE:

NOTE: This FMK is for systems that have either or both SECONDARY OID-2 and SECONDARY OID-3 configured for leased line operation. SECONDARY OID-3 references are shown in parentheses.

1. Remove power from ACU. Set 1A4A1S1 power switch to the 0 (OFF) position. (Class II systems only)
2. Remove facility power from ACU by unplugging the power cord.
3. Remove model 2440 modem from modem rack slot 1A3A2 (1A3A3).
4. Disconnect SIO and W14P73 (W14P74) cables from rear of 1A3A2 (1A3A3).
5. Remove modem adapter segment from 1A3A2 (1A3A3).
6. Install modem adapter segment (P/N 62828-90044-2) in slot 1A3A2 (1A3A3).
7. Reconnect SIO cable to 1A3A2 (1A3A3).
8. Install 9600-baud modem adapter cable (P/N 62828-42043-10), J1 end to W14P73 (W14P74). Connect P1 end to 1A3A2 (1A3A3) TELSET/LL (top TELCO connector).
9. Install modem (P/N 62828-90048-1) in slot 1A3A2 (1A3A3) of ACU.
10. Restore facility power to ACU.
11. Apply power to ACU. Set 1A4A1S1 power switch to the 1 (ON) position.   (Class II systems only)

NOTE: PERFORM STEP 12 ONLY IF FIRMWARE REV. 2.1 OR HIGHER HAS NOT BEEN INSTALLED IN THE ACU MEMORY BOARD.

12. Configure modems in slots 1A3A2 (1A3A3) using display and pushbuttons on front panel of modem to perform the following:

	DISPLAY READS	PRESS
A.	LOADS FACTORY OPTION SET #1	
1.	V.32 9600/IDLE	NO
2.	DIAL STORED NUMBER?	NO
3.	DISPLAY STATUS?	NO
4.	SELECT TEST?	
NO		
5.	MODIFY CONFIGURATION?	YES
6.	CHANGE MODEM OPTIONS?	TALK/DATA
7.	LOAD OR STORE OPTION SET?	YES
8.	LOAD FACTORY OPTION SET?	YES
9.	ARE YOU SURE?	YES
10.	LOAD FACTORY OPTION SET #l?	YES
11.	STORE PRESENT OPTIONS?	NO
12.	LOAD OR STORE OPTION SET?	NO
13.	MODIFY CONFIGURATION?	YES

B. ORIGINATE OR FORCED ANSWER SETUP

14.	CHANGE MODEM OPTIONS?	YES
15.	DCE RATE IS 9600 TRELLIS. CHANGE?	NO
16.	NORMAL ORIGINAL/FORCED ANSWER?	NO
17.	V.32 FAST TRAIN DISABLED. CHANGE?	NO
18.	AUTO RETRAIN ENABLED. CHANGE?	NO
19.	INTERNAL CLOCK. CHANGE?	NO

C. LEASED LINE SETUP

20.	DIAL LINE CHANGE TO LEASE?	YES
21.	LEASED LINE CHANGE TO DIAL?	TALK/DATA
22.	CHANGE MODEM OPTIONS?	NO
23.	CHANGE MNP OPTIONS?	YES
24.	MNP PROTOCOL ENABLED. CHANGE?	NO
25.	AUTO FALLBACK TO NORMAL. CHANGE?	NO
26.	FLOW CONTROL IS XON/XOFF. CHANGE?	

YES

27.	CHANGE TO UNILATERAL CTS?	NO
28.	CHANGE TO RTS/CTS?	NO
29.	CHANGE TO DISABLED?	YES
30.	FLOW IS DISABLED. CHANGE?	NO
31.	XON/XOFF PASS THRU DISABLED.CHANGE?	

TALK/DATA

32.	CHANGE MNP OPTIONS?	NO
33.	CHANGE DTE OPTIONS?	YES
34.	ASYNC DATA CHANGE TO SYNC?	NO
35.	DTE RATE IS 9600. CHANGE?	NO
36.	8 BIT CHAR SIZE CHANGE TO 7?	NO
37.	NO PARITY CHANGE?	NO

D. DISABLE "AT" COMMANDS

38.	"AT" COMMAND SET ENABLED, CHANGE?	YES
39.	"AT" COMMAND SET DISABLED, CHANGE?	

NO

40.	IGNORES DTR CHANGE?	NO
41.	DSR FORCED HIGH CHANGE?	NO
42.	DCD FORCED HIGH CHANGE?	YES
43.	CHANGE TO DCD FROM REMOTE?	YES
44.	DCD IS REMOTE CHANGE?	NO
45.	CTS FORCED HIGH CHANGE?	YES
46.	CHANGE TO CTS FOLLOWS RTS?	NO
47.	CHANGE TO CTS EQUALS RTS?	NO
48.	CHANGE TO CTS FOLLOWS DCD?	YES
49.	CTS FOLLOWS DCD CHANGE?	TALK/DATA
50.	CHANGE DTE OPTIONS?	TALK/DATA

E. STORE PRESENT SETUP

51.	LOAD OR STORE OPTION SET?	YES
52.	LOAD FACTORY OPTION SET?	NO
53.	STORE PRESENT OPTIONS?	YES
54.	ARE YOU SURE?	

YES

55.	OPTIONS ARE NOW PERMANENT (displayed for 2 seconds, then)	
	MODIFY CONFIGURATION?	TALK/DATA
	V.32 9600/TRAINING	

13. Sign on OID as a TECHNICIAN and press REVUE-SITE-CONFG-COMMS.
14. Move cursor to OID-2 (OID-3) SECONDARY. Press CHANG and set up port as follows:

EHB-11

```
                    FUNCTION  OID-2 (OID-3) SECONDARY
        STATUS          ENABLED      HANDSHAKE     NONE
        BAUD RATE       9600         CONNECTION    LEASED
        PARITY SELECT   NONE         MODEM SLOT    2
        BITS/CHAR       8            DIAL TYPE     TONE
        STOP BITS       1
    Exit COMMS page.
```

15. At OID-2 (OID-3) SECONDARY location, disconnect 2440 standalone modem (P/N 62628-90046-1) and cables. Install V.3225 standalone Modem (P/N 62628-90050-1). Reinstall cable between modem and OID. Install 9600-baud modem adapter cable (P/N 62828-42043-10), J1 end to leased line, P1 end to TELSET/LEASED LINE jack of modem.
16. Turn power on modem.
17. Set up modem parameters using display and pushbuttons on front panel of modem to perform the following:

DISPLAY READS	PRESS
A. LOADS FACTORY OPTION SET #1	
1. V.32 9600/IDLE	NO
2. DIAL STORED NUMBER ?	NO
3. DISPLAY STATUS ?	NO
4. SELECT TEST ?	
NO	
5. MODIFY CONFIGURATION?	YES
6. CHANGE MODEM OPTIONS?	TALK/DATA
7. LOAD OR STORE OPTION SET ?	YES
8. LOAD FACTORY OPTION SET ?	YES
9. ARE YOU SURE?	
YES	
10. LOAD FACTORY OPTION SET #1?	YES
11. STORE PRESENT OPTIONS ?	NO
12. LOAD OR STORE OPTION SET?	NO
13. MODIFY CONFIGURATION ?	YES
B. ORIGINATE OR FORCED ANSWER SETUP	
14. CHANGE MODEM OPTIONS?	YES
15. DCE RATE IS 9600 TRELLIS.CHANGE?	NO
16. NORMAL ORIGINATE/FORCED ANSWER?	YES
17. FORCED ANSWER/NORMAL ORIGINATE?	NO
18. V.32 FAST TRIM DISABLED. CHANGE?	NO
19. AUTO RETRAIN ENABLED, CHANGE?	NO
20. INTERNAL CLOCK, CHANGE ?	NO
C. LEASED LINE SETUP	
21. DIAL LINE CHANGE TO LEASE ?	YES
22. LEASED LINE CHANGE TO DIAL?	TALK/DATA
23. CHANGE MODEM OPTIONS?	NO
24. CHANGE MNP OPTIONS?	YES
25. MNP PROTOCOL ENABLED. CHANGE?	NO
26. AUTO FALLBACK TO NORMAL, CHANGE?	NO
27. FLOW CONTROL IS XON/XOFF. CHANGE?	
YES	
28. CHANGE TO UNILATERAL CTS?	NO
29. CHANGE TO RTS/CTS?	NO

30.	CHANGE TO DISABLED?	YES
31.	FLOW IS DISABLED, CHANGE?	NO
32.	XON/XOFF PASS THRU DISABLED CHANGE?	

TALK/DATA

33.	CHANGE MNP OPTIONS?	NO
34.	CHANGE DTE OPTIONS	YES
35.	ASYNC DATA CHANGE TO SYNC?	NO
36.	DTE RATE IS 9600, CHANGE?	NO
37.	8 BIT CHAR SIZE CHANGE TO 7?	NO
38.	NO PARITY CHANGE?	NO

D. DISABLE "AT" COMMANDS

39.	"AT" COMMAND SET ENABLE, CHANGE?	YES
40.	"AT" COMMAND SET DISABLE, CHANGE?	NO
41.	IGNORES DTR CHANGE?	NO
42.	DSR FORCED HIGH CHANGE?	YES
43.	CHANGE TO DCD FROM REMOTE?	YES
44.	DCD IS REMOTE CHANGE?	NO
45.	DCD FORCED HIGH CHANGE?	NO
46.	CTS FORCED HIGH CHANGE?	YES
47.	CHANGE TO CTS FOLLOWS RTS?	NO
48.	CHANGE TO CTS EQUALS RTS?	NO
49.	CHANGE TO CTS FOLLOWS DCD?	YES
50.	CTS FOLLOWS DOD CHANGE?	TALK/DATA
51.	CHANGE DTE OPTIONS?	TALK/DATA

E. STORE PRESENT SETUP

52.	LOAD OR STORE OPTION SET?	YES
53.	LOAD FACTORY OPTION SET?	NO
54.	STORE PRESENT OPTIONS?	YES
55.	ARE YOU SURE?	YES
56.	OPTIONS ARE NOW PERMANENT (displayed for 2 seconds, then) MODIFY CONFIGURATION?	TALK/DATA
	V.32 9600/TRAINING	

NOTE: Display will read TRAINING until modems connect, then display will change to **ON LINE**.

18.   On OID-2 (OID-3) change baud rate from 2400 to 9600. Press SET UP (F3). Move cursor using arrow keys to PORT. Move cursor down to PORT A SETTINGS. Press <ENTER>. Move cursor down to TRANSMIT BAUD RATE. Press <ENTER> until 9600 is selected. Press <SHIFT> <UP ARROW>. Move cursor to EXIT. Select EXIT AND SAVE CHANGES and press <ENTER>. Answer Yes to question. OID will be communicating with ACU.

(end of procedure)